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## Is exchange rate risk priced in microfinance?



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### ABSTRACT

High microcredit interest rates have often been a source of criticism against the microfinance movement. Research has focused attention on the cost structure of interest rates and more recently on the macroeconomic and macro-institutional factors. While cost structure is probably the most important determinant of interest rates, other factors can also matter. This paper uses an innovative measure of foreign exchange risk to explore its impact on microcredit interest rates. We show that microfinance institutions that operate in countries with fixed exchange rate regimes tend to charge lower interest rates than those operating in countries with floating exchange rate regimes.

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### 1. Introduction

With the rise of the modern microfinance movement in the late 1970s came sharp criticism against the industry high interest rates. High interest rates on microcredit charged by microfinance institutions (MFIs) are perceived to be in direct opposition to the original social mission of the movement. This criticism has intensified recently as many politicians, opposition leaders, and academicians adopt the view that microfinance is an opportunity to make money out of the poor and the transformation of some MFIs into commercial banks (Fernando, 2006; Hudon, 2007; Jo et al., 2009; Boatright and Argandoña, 2010; Bateman, 2010). Bateman (2010), for example, asserts that many MFIs use the claims that high interest rates are necessary to cover costly operations when in fact high interest rates are supporting high salaries and bonuses of the senior managers. Advocates of the microfinance movement argue that these rates, although high, are still well below those charged by informal moneylenders and that the microfinance movement rests largely on the basic assertion that the poor household have higher rates of return on capital which allows them to pay high interest rates (Armendariz and Morduch, 2005; Yunus, 2008). Some policymakers and practitioners in a growing number of countries have emphasized the need to impose rate ceiling on microcredit to ensure the poor's access to affordable credit. In the Opinion Pages of the New York Times in 2011, Muhammad Yunus expressed his worries that microcredit would give rise to its own breed of loan sharks. He suggested an interest rate cap of 10–15 percent over the cost of funds for MFIs in order to prevent profit-maximizing institutions from extracting mega-profits from poor borrowers. Nevertheless, imposing a rate ceiling may threaten the availability of

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microcredit. Since microcredit is associated with high-cost operation, the necessity of charging higher interest rates than that of the market has been widely accepted. Charging interest rates high enough is an essential practice for MFIs that intend to cover costs, continue its operation, protect against losses, serve more people, and provide better service.

While high interest rates have been mainly attributed to operating costs, cross country differences are still dramatic and veil a great deal of underlying diversity. According to the sample of the MFIs we use in this study, the global average yield on gross portfolio was 29 percent in 2010. Whereas the average in Ecuador was 16 percent, the average in a neighboring country, Mexico, was 76 percent. During the past decade, interest rates have dropped worldwide, varied more widely in Latin America and Africa, and were significantly lower in South Asia (Rosenberg et al., 2013). Although these differences have captivated the attention of the media and practitioners who raised many questions on how MFIs set interest rates on microcredit, empirical studies devoted to exploring cross country differences in interest rates lag far beyond. For example, many practitioners assert the risk of foreign exchange in microfinance but up to our knowledge there is no empirical work that validate these claims.

Studies that examine cross country differences in interest rates have mainly considered four groups of factors. The first group includes cost structure and efficiency of the MFIs (Cotler and Almazan, 2013; Rosenberg et al., 2009; Roberts, 2013; Mersland and Strøm, 2012; Gonzalez, 2010). The second group includes characteristics of the MFIs such as loan size (Gonzalez, 2010; Cotler and Almazan, 2013); percentage of female borrowers (Hudon and Nawaz, 2011; Roberts, 2013; D'Espallier et al., 2011); age of the MFI (Hudon and Nawaz, 2011; Roberts, 2013; Gonzalez, 2010); profit orientation of the MFI (Hudon and Nawaz, 2011; Rosenberg et al., 2009; Roberts, 2013). The third group of factors includes the competitive elements of the microfinance industry (Mersland and Øystein Strøm, 2009; Roberts, 2013; Kai, 2009; Rosenberg et al., 2009). The fourth group exploits country specific macroeconomic and macro-institutional factors (Ahlin et al., 2011; Mersland and Øystein Strøm, 2009). Generally speaking, the literature has found that operational and financial costs and percentage of female borrowers are associated with higher interest rates while loan size, efficiency and productivity, and age of MFIs are associated with lower interest rates. The results on the effects of macroeconomic and macro-institutional variables are inconclusive.

High interest rates have been strongly linked to different types of costs.<sup>1</sup> Using data from 1229 MFIs operating in 84 countries for the period 2000–2008; Cotler and Almazan (2013) examine the impact of several variables on interest rates. Among other results, the authors found that operating and funding costs are robust predictors of high interest rates. Rosenberg et al. (2009) make use of 555 sustainable MFIs that reported to MIX in 2006 for point in time data and 175 sustainable MFIs that reported in both 2003 and 2006 for trend-line data to study the determinants of interest rates. The authors found that administrative costs are the single largest contributor to interest rates. Drawing on data from 358 MFIs for the year 2009 from two different MIX data sources; the archive of MFI financial information and the social performance reports, Roberts (2013) examines differences between the effective interest rates charged by nonprofit versus for-profit MFIs. The authors found that operating cost is the single largest contributor to interest rates. In response to claims that many MFIs neglect social mission in pursuit for profits through excessive interest rates, Mersland and Strøm (2012) use a global sample of 405 MFIs in 73 countries collected by third party rating agencies, and investigate market power of an average MFI. Costs of funds, prices of labor and fixed capital were found to be the main significant explanatory variables of interest rates.

Another reported driver of interest rates in the literature is loan size. Since operating expenses are the main components of interest rates, Gonzalez (2010) used 1003 MFIs in 84 countries to identify the main drivers of operating expenses. The author found that relative loan size is among the main drivers of the operating expenses. Hudon and Nawaz (2011) provide empirical evidence on the role of social and financial efficiency on interest rates using data from 291 MFIs operating in 67 countries. The authors find that loan size has an inverse relationship with interest rates. Similarly, Cotler and Almazan (2013) conclude that lower interest rates are associated with larger loan sizes. While the theoretical effect of loan size on interest rate is apparent, the use of loan size as a determinant of interest rate has been limited in the empirical literature due to possible endogeneity issues.

The correlation between the percentage of female borrowers and interest rates has also been examined in the literature. Hudon and Nawaz (2011) and Roberts (2013) conclude that MFIs that serve higher percentage of female borrowers tend to charge higher interest rates. Gonzalez (2010), Hudon and Nawaz (2011), and Roberts (2013) find that older MFIs charge lower interest rates. Rosenberg et al. (2009) and Roberts (2013) examine differences between interest rates charged by nonprofit versus for-profit MFIs. While Rosenberg et al. (2009) find that search for profit is not an important driver of interest rate; Roberts (2013) concludes that interest rates charged by MFIs with stronger profit orientation are significantly higher on average. The effect of productivity and efficiency on interest rates have been examined by Gonzalez (2010) and Cotler and Almazan (2013). Using the number of borrowers served by a staff member as a measure of productivity, Gonzalez (2010) finds that higher productivity reduces operating cost. Cotler and Almazan (2013) use operational cost adjusted for portfolio

<sup>1</sup> Two types of costs stand out; financial and operating costs. A report from the Microfinance Information eXchange (MIX) in 2006 shows that three fourth of MFIs' funds are sourced from commercial banks at market rates. According to MIX 2010 publications based on 2008 data, financial costs (interest and fee expenses on deposits and borrowed funds) account for 23 percent of the interest rates charged by profitable MFIs while operation costs (personal and administrative expenses) account for 62 percent.

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